

**METHODS AND APPARATUSES FOR MEASURING THE REFRACTIVE INDEX  
AND OTHER OPTICAL PROPERTIES OF LIQUIDS, GELS, AND SOLIDS**

**ABSTRACT OF THE DISCLOSURE**

Methods and apparatuses for measuring the optical properties of solids, gels, and liquids are disclosed. The apparatuses may be constructed on miniature substrates using conventional semiconductor wafer and packaging processes. The substrates may be mass-produced on wafers, which are then diced to provide individual miniature substrates. High measurement precision, low-manufacturing costs, and other benefits are provided by the present inventions.